Colorectal Cancer:

The Importance of Early Detection

AT-A-GLANCE

1996

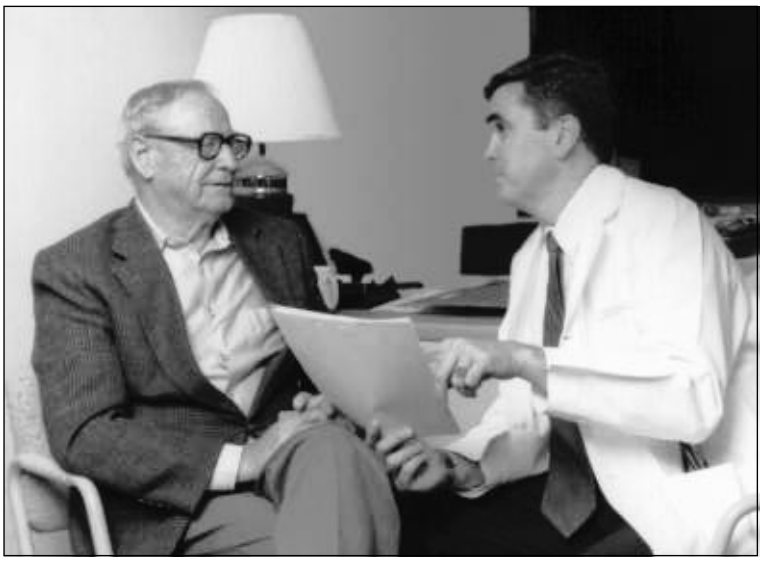

Photo courtesy of the Winship Cancer Center of Emory University

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"We now have clearer insight into the natural history of colorectal cancer, better understanding of its biologic features, and clinical skills with which to intervene and make a difference for many people. Colorectal cancer screening has come of age."

Sidney J. Winawer, MD, Memorial Sloan-Kettering Cancer Center, New York
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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Colorectal Cancer

Colorectal cancer is the third most commonly diagnosed cancer for both men and women in the United States. Approximately 133,500 new cases will be diagnosed during 1996. For men, colorectal cancer follows prostate and lung cancers in frequency; for women, it follows breast and lung cancers. Approximately 7 percent of Americans are expected to develop colorectal cancer within their lifetimes.

Colorectal cancer is the second leading cause of cancer-related deaths in the United States. In 1996, there will be an estimated 54,900 deaths from colorectal cancer.

Who Is at Risk?

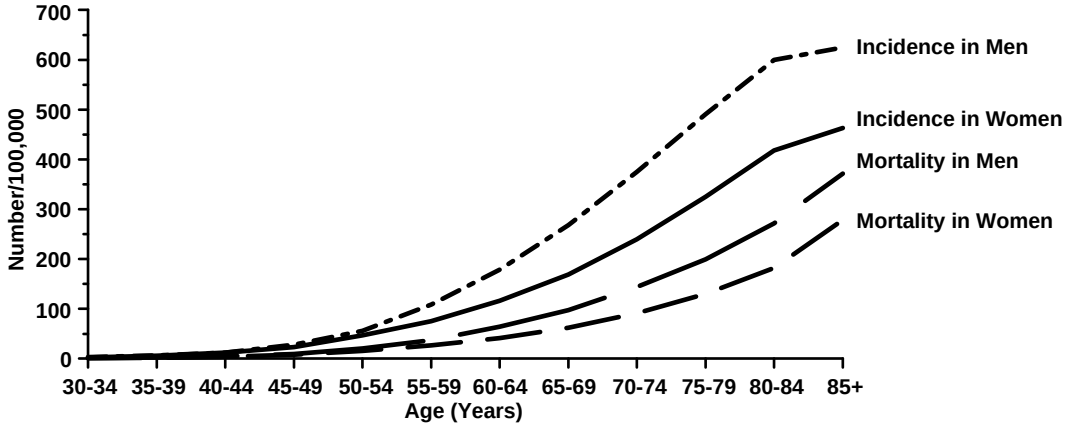
Well-established risk factors for colorectal cancer are age and male gender. The risk of developing this cancer begins to increase after the age of 40, rises sharply between the ages of 50–55, and continues to increase with age. Men are more likely than women and African Americans are more likely than whites to be diagnosed with colorectal cancer. Other major risk factors include inflammatory bowel disease, familial disposition to developing colon and rectal polyps, and family history of colorectal cancer. Other conditions contributing to increased risk for colorectal cancer include a history of colorectal polyps or of ovarian, endometrial, or breast cancers. Excess dietary fat, alcohol use, sedentary lifestyle, and obesity are possible risk factors.

Early Detection

Survival is greatly enhanced when colorectal cancer is treated at an early stage. Survival rates vary significantly by stage at diagnosis: persons diagnosed at a localized stage have a 5-year relative survival rate of 91 percent, and those who are diagnosed at a regional stage have a 5-year survival rate of 63 percent. For patients diagnosed at an advanced stage of colorectal cancer (distant metastases), the 5-year survival rate drops to 7 percent despite advances in surgical technique and postoperative therapies such as chemotherapy, radiation, and immunotherapy. Only 37 percent of colorectal cancers are diagnosed while the disease is still in a localized stage. For African Americans, the 5-year relative survival rates are lower than those for whites, and fewer cases are diagnosed at an early stage.

Cancerous polyps and their precursors, benign adenomatous polyps, may be present in the colon for years before invasive cancer develops. Reducing the number of deaths from colorectal cancer depends on detecting and removing precancerous polyps and detecting and treating invasive cancer in its earliest stages.

Colorectal Cancer: Average Annual Age-Specific Incidence and Mortality Rates by Gender, 1987–1991



Source: SEER Cancer Statistics Review, 1973–1991

Three tests are currently available for colorectal cancer:

- Fecal Occult Blood Testing (FOBT) is a chemical test for blood in a stool sample. A positive test can indicate bleeding from a precancerous growth or from colorectal cancer. However, FOBT has the potential for false-positive and false-negative results. False-positive results can be caused by other medical conditions or by the use of aspirin and nonsteroidal anti-inflammatory drugs, which can cause bleeding. Recent consumption of raw fruit, vegetables, or red meat can also produce false-positive results. False-negative tests may result because polyps and some cancers may not cause bleeding or do so only intermittently.
- Sigmoidoscopy uses a hollow, lighted tube to visually inspect the wall of the rectum and distal colon. The 35-centimeter flexible sigmoidoscope can detect about 50–55 percent of polyps; the longer 60-centimeter flexible scope is capable of detecting about 65–75 percent of polyps and 40–65 percent of colorectal cancers. The flexible sigmoidoscopes are now preferred over the rigid sigmoidoscope, because they permit a more complete examination of the colon and provide greater patient comfort during the procedure.
- Digital Rectal Examination (DRE) is the most commonly used screening test for colorectal cancer because it can be incorporated easily into routine physical exams, requires no special equipment, and is commonly performed to check the prostate in men as well. However, DRE can detect only those tumors within about 10 centimeters of the anus.

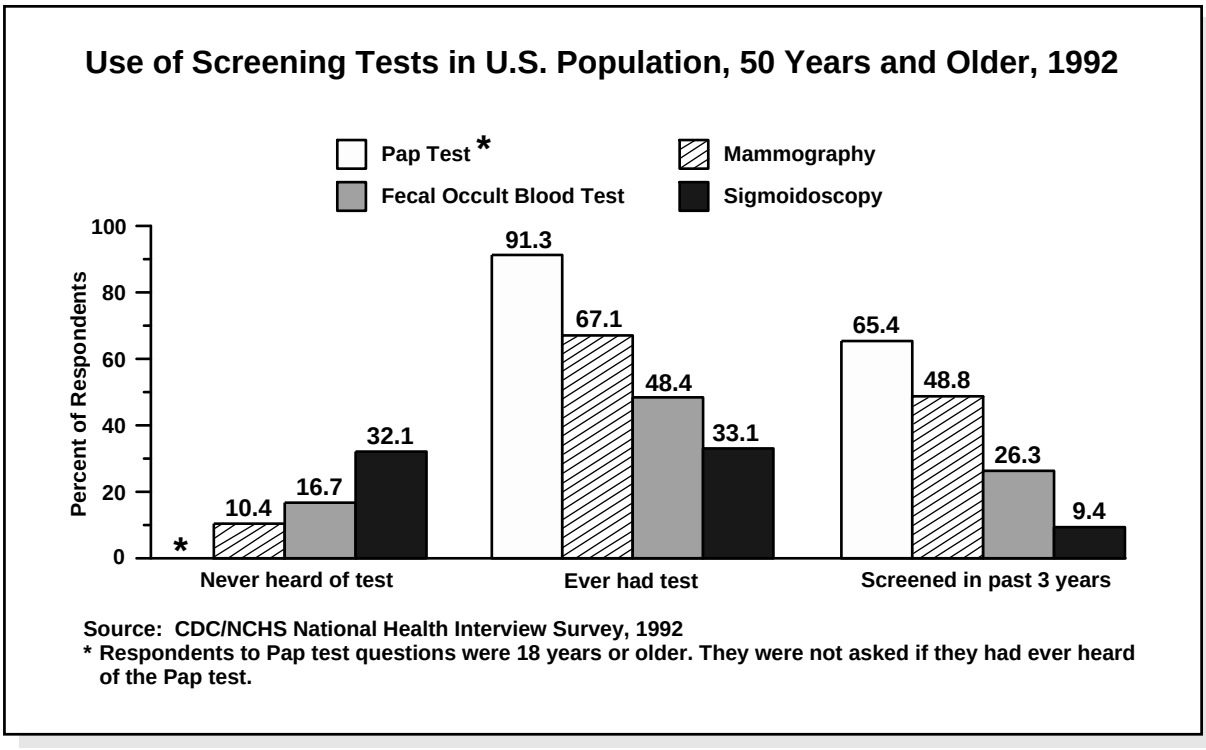
Follow-up diagnostic tests include colonoscopy and barium enema. These tests allow inspection of the entire colon and are usually recommended when a screening test is positive.

Guidelines for Screening

Recent studies have provided new evidence that screening reduces mortality from colorectal cancer. On the basis of a systematic and rigorous review of this new data, the U.S. Preventive Services Task Force (USPSTF), an independent, expert advisory panel convened by the U.S. Public Health Service, has concluded that there is now sufficient evidence to issue new recommendations on screening. In the second edition of the *Guide to Clinical Preventive Services*, the USPSTF recommends that clinicians include colorectal cancer screening, with periodic flexible sigmoidoscopy and/or annual fecal occult blood testing (FOBT), in the periodic health examination of all persons aged 50 and over. There is insufficient evidence to determine which of these screening methods is preferable or whether the combination of FOBT and sigmoidoscopy produces greater benefits than either test alone. Currently, the American Cancer Society (ACS) recommends an annual FOBT for those aged 50 and over, flexible sigmoidoscopy every 3-5 years for those aged 50 and over, and a DRE annually for people aged 40 and over.

The health benefit derived from colorectal cancer screening is supported by a randomized control trial using FOBT's that showed a 33 percent reduction in mortality in the group chosen to undergo annual screening. The efficacy of sigmoidoscopy has not been tested in a randomized control trial, but is supported by two case-control studies. The efficacy of DRE in reducing the number of deaths from colorectal cancer has not been documented.

Results from these studies and the new USPSTF guidelines highlight the need to increase screening for colorectal cancer with effective methods such as FOBT and sigmoidoscopy. Screening for colorectal cancer lags behind screening for breast and cervical cancers (see graph on page 4), perhaps because the effectiveness of screening has only recently been documented. In the 1992 National Health Interview Survey, almost 17 percent of persons aged 50 or older had never heard of an FOBT for screening, and over 32 percent had never heard of sigmoidoscopy. About 26 percent reported having had an FOBT for screening in the past 3 years, and only about 9 percent reported having had screening sigmoidoscopy in the past 3 years. These statistics underscore the need for greater effort to educate health care providers about the new colorectal cancer screening guidelines and to inform the public, especially the targeted older population, about the availability and advisability of screening.



CDC Program Activities

The Centers for Disease Control and Prevention (CDC) has initiated a number of activities in the area of screening for colorectal cancer:

- CDC is providing support for two multiyear studies on patient compliance with screening regimens. In cooperation with the Kaiser Permanente Medical Care Program of Northern California, CDC is supporting a study of determinants of patient compliance with ongoing, no-cost flexible sigmoidoscopy screening. CDC is also collaborating with the Imperial Cancer Research Fund in Great Britain to examine factors that predict interest and participation in screening in a randomly selected, population-based sample in Glasgow, Scotland.
- CDC is providing support for the University of North Carolina Prevention Center to develop standards for performing and reporting results of sigmoidoscopies. This 3-year program will include (1) developing standards for assessing and reporting bowel preparation, patient comfort, and steps in the procedure and (2) standardizing terminology for reporting results and for documenting referral and follow-up. Having such standards is important because of the anticipated increased use of sigmoidoscopy.
- CDC is supporting analysis of data obtained from a randomized trial of FOBT at the University of Minnesota. The analysis includes evaluating whether the benefits of FOBT screening are limited to certain population subgroups.
- CDC and ACS co-sponsored the National Conference on Colorectal Cancer in November 1995. In fiscal year 1996, CDC and ACS will collaborate to promote screening for colorectal cancer.

For more information, please contact the Centers for Disease Control and Prevention,
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